

ABSTRACT

An ignitable solid material includes molten-metal-producing materials, as well as other materials for retaining its shape when ignited. The molten-metal-producing materials may include a metal-producing reaction mixture, for example including a reaction mixture comprising a reducing agent and a metal compound powder. The other materials may include a binder, and a heat-retaining material, such as sand. The ingredients of the ignitable solid material may be pressed together and dried, to produce a solid, machinable, heat-producing material (a heat block) that may be formed in any of a variety of shapes. An insulating material, such as a ceramic blanket material, may be placed on one or more sides of the ignitable solid material, for example to direct heat produced by the reaction of the solid material in one or more desired directions. The solid material may be used in any of a variety of situations where concentrated heat is desired.